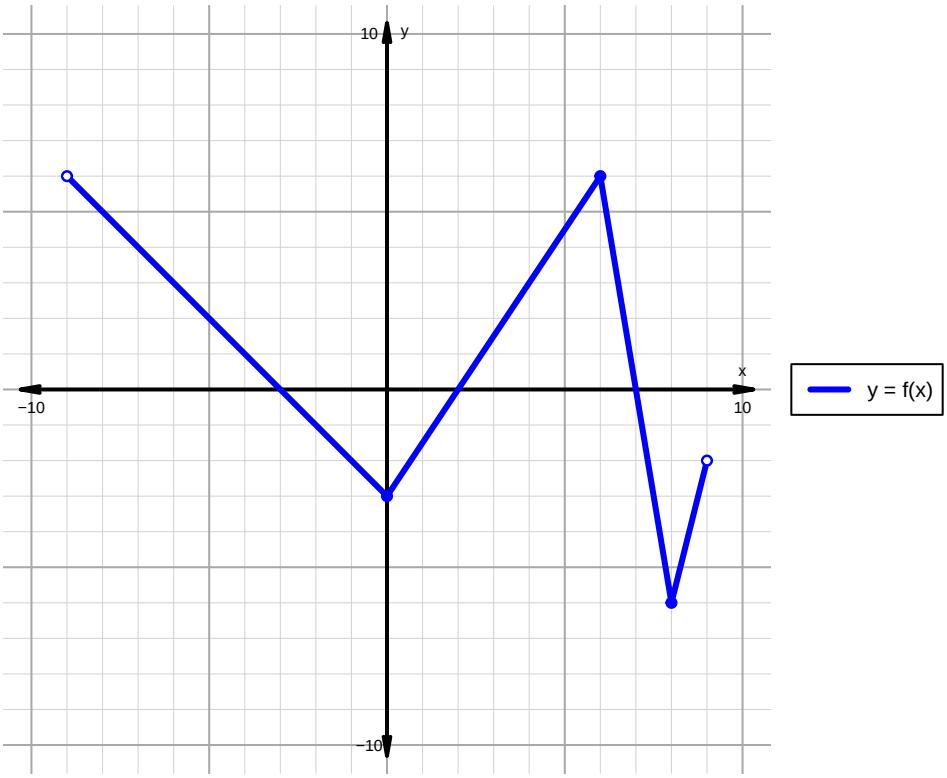
Name: Date:

Intervals, Transformations, and Slope Solution (version 52)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-9,-3)\cup(2,7)$
Negative	$(-3,2)\cup(7,9)$
Increasing	$(0,6)\cup(8,9)$
Decreasing	$(-9,0)\cup(6,8)$
Domain	$(-9,9)$
Range	$(-6,6)$

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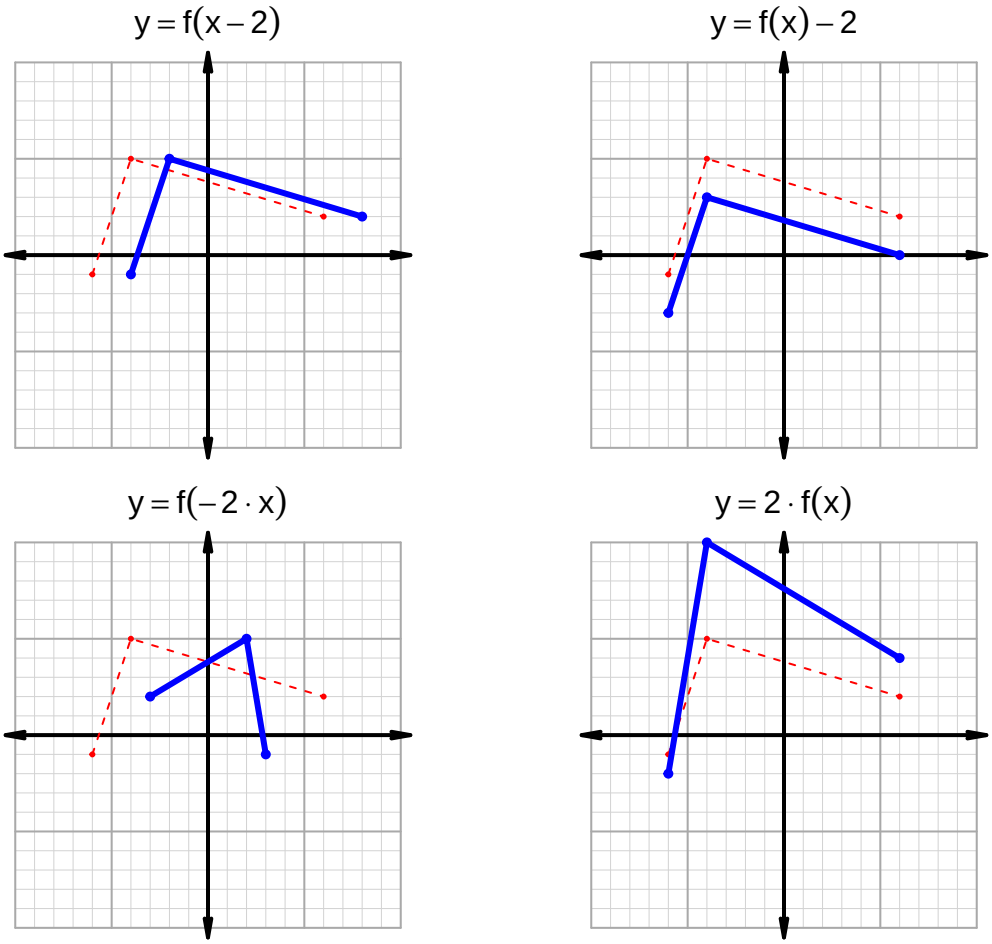
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 96$. Express your answer as a reduced fraction.

x	$g(x)$
33	64
55	33
64	96
96	55

$\frac{g(96)-g(33)}{96-33} = \frac{55-64}{96-33} = \frac{-9}{63}$

The greatest common factor of -9 and 63 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{7}$$